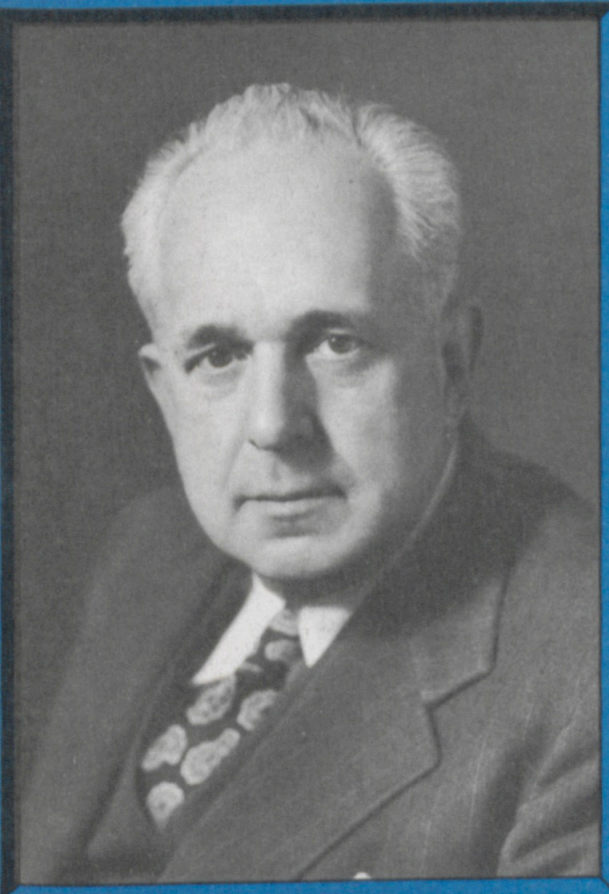
THE GEORGE WASHINGTON UNIVERSITY

Federalist



Cloyd H. Marvin

Oswald S. Colclough

SPRING 1959

The President Retires

Before the new year, the Chairman of the University Board of Trustees, Dr. Robert V. Fleming, announced that the Board of Trustees had regretfully acquiesced in the expressed desire of President Cloyd H. Marvin to be relieved of the duties of President at the earliest practicable date, convenient to the best interests of the University.

Effective January 28, Dr. Marvin, who has been President of the University since 1927, will become President Emeritus of the University and Dr. Oswald S. Colclough, who has been University Dean of Faculties since 1953 and was Dean of the Law School 1949-1953, will become Acting President. Dr. Colclough has been Director of the University Patent, Trademark, and Copyright Foundation since 1954.

In addition to, and sometimes in connection with their educational activities, both of these University leaders have devoted energies to the interests of good government and of Federal employees. Some of their contributions in this regard are listed here.

PRESIDENT MARVIN

Civilian Aide to the Secretary of the Army for the District of Columbia

Chairman of Advisory Committee to Education Committee of the United States House of Representatives 1947-1949

Assistant to the Secretary of War in charge of Research and Development 1946-1947, and in addition, Acting Director of Research and Development, War Department General Staff, 1947

Chairman, U. S. Delegation to Seventh Pan-American Scientific Congress 1935

President, National Parks Association, 1933-1935

Chairman, District Bi-Centennial Commission 1932

Promoted development of theoretical physics which led to the establishment of the Washington Conferences on Theoretical Physics, sponsored annually by the Carnegie Institution of Washington and The George Washington University for the world's outstanding nuclear physicists. At one of these, Niels Bohr, Copenhagen scientist, made the first announcement in America of the fission of uranium with the release of atomic energy (January 26, 1938). These conferences encouraged development of nuclear physics in the United States, and brought physicists to the United States from many parts of the world. These circumstances meant much in the Federal Government's ability to put men to work in the development of the atomic bomb.

Chairman, Committee of the American Council on Education which investigated possibilities of extending the National Recovery Act provisions to educational institutions.

As President of the University, Dr. Marvin

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The George Washington University
Federalist

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Letter

THIS RECENT AIRVIEW of the University tells something about its role in offering educational opportunity to the Nation's public servants.

From the eye of an aerial camera one can plainly see the quick accessibility of University classrooms to the Government employee who is at his office desk until 4, 4:30, 5, 5:30, 6.

When the University moved from 15th and H Streets to its present setting in 1912, "sundown" classes had been a part of its program for 55 years.

In easy walking distance was the Treasury Building at 15th and Pennsylvania Avenue, then as now Washington's oldest Government building

from the Editor

except the White House and the Capitol.

Old State, now the Bureau of the Budget and then known as State, War, and Navy Building, was at Pennsylvania Avenue and 17th Street, N. W. Part of the Department of Agriculture, whose foundation was laid in 1905, was in existence, and soon to come during World War I were the Munitions Building at 19th and Constitution Avenue, the Navy Building, and the old Building of the Department of Interior.

The buildings, and the employees in them in recent years have multiplied. Several thousand Federal employees now study each year at George Washington—because the University in its present location offers accredited evening classes to help meet the needs of the Nation's offices for informed leadership. Federal employee students participate in the activities of University life and are accorded honors due them in such national organizations as Phi Beta Kappa, Sigma Xi, and comparable professional and honorary groups.

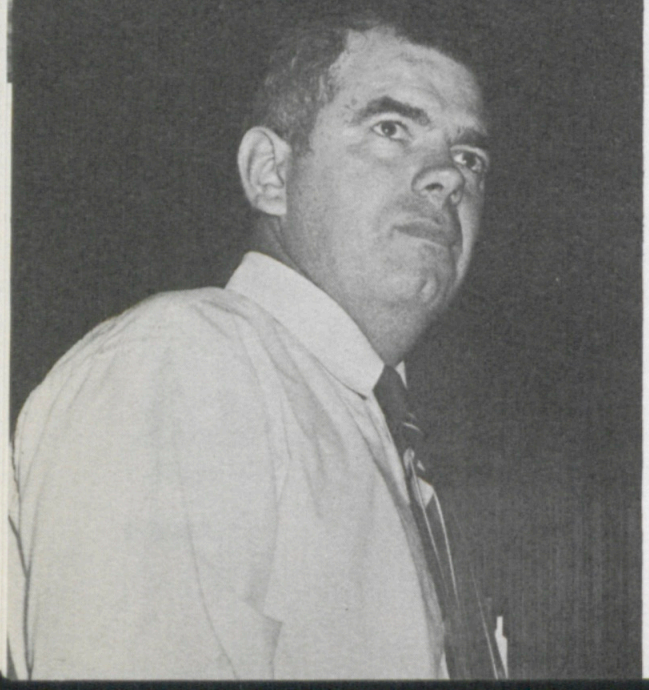
In this connection, it becomes of some interest to note that more than 350 of the Nation's leading public servants listed in the *Congressional Directory* have completed earned degrees at The George Washington University. Many others have attended the University, or are doing so now. The majority of the students placed in jobs through the help of the University Placement Office enter Federal employment in Washington.

The University's setting has played and is playing a significant role in the development of trained leadership in Government.

Margaret Davis

Flames, Rockets, and Space Ships

by W. W. BALWANZ
Lecturer in Electrical Engineering;
Research Engineer, Naval
Research Laboratory



INITIALLY a study of the electrical properties of flames appeared to be a nice ivory-tower type of investigation with just enough application to make it interesting. A review of the existing literature showed many intriguing experiments which could be improved upon. New instruments and techniques were available, particularly in the electronics field. The fact that most investigators had dropped out of the field prior to 1920, before radio and electronics really started its spiraling career, left a large gap in what otherwise might have been an orderly progressive development.

Shortly after the termination of World War II, having previously been engaged in the hectic game of outfitting airplanes with the electronic equipment needed for far-flung military operations, I settled down to determining the intricacies of the prosaic flame. The everchanging, flickering, fluttering flame, however, proved to be quite evasive. Today the experiments gave one result, tomorrow another. It was about like starting down to the corner drugstore to fill your best pipe with your favorite tobacco and suddenly finding yourself in Morocco, Saigon or San Francisco. A nice quiet laminar flame of the type seen on an ordinary gas stove when the burner is turned down low also proved to be non-cooperative. True it was well behaved, but electrically it was quite inert, not having enough charge to materially excite the most sensitive of the electrical probes being used. The search was extended in ever-widening

circles to find flames with properties more conducive to investigation.

Within two years, then, I found myself face to face with the usually well-behaved but otherwise roaring, surging and eruptive flame spouting from the open mouth of the rocket engine. Electrically it proved to be quite active, and it was stable enough to give repetitive results. At every turn, new instrumentation was needed, all the old approaches having proven to be inadequate for bearding this monster. And for the most part this ended the ivory-tower approach. As soon as the first technical report was issued, the apparently never-ending stream of engineers began their plea for more information to feed the maw of the gigantic missile program existing today.

Still, following a logical method, a survey of the various flame character-

(Continued on Page 8)

The Magic Flame

Some of the electrical properties of flames here illustrated are helping engineers to design space ships for the future.

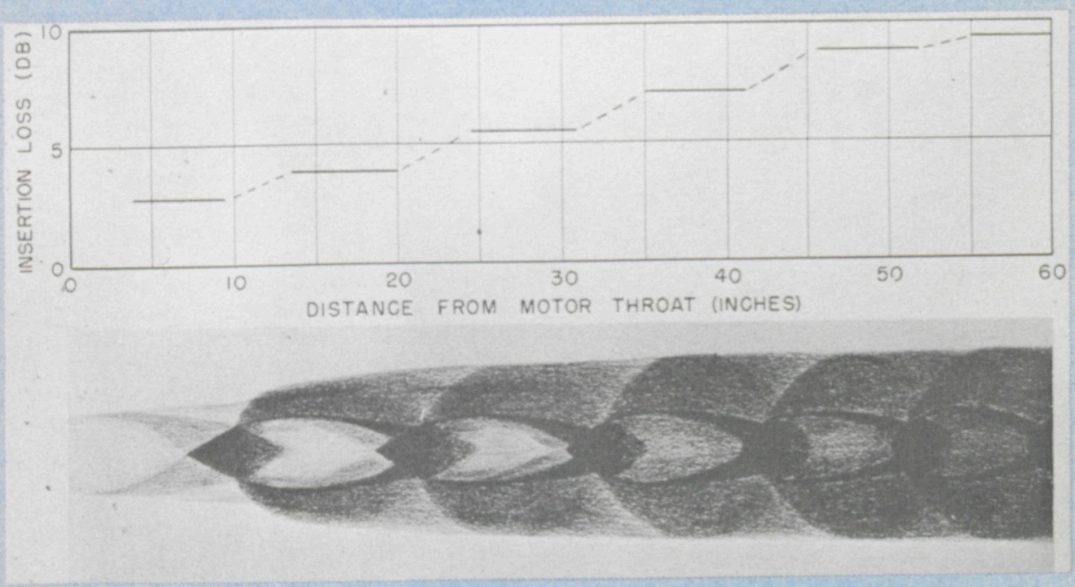


Fig. 1. Node formation and insertion loss

The flame structure of a rocket exhaust is more complicated than is revealed to the eye or to a single photograph. Accurate scaling from a number of photographs plus the artist's shading reveals detail as shown in the composite picture. The loss of signal propagated through the flame as a function of position through the flame is shown above. Ionization increases across the shock front.

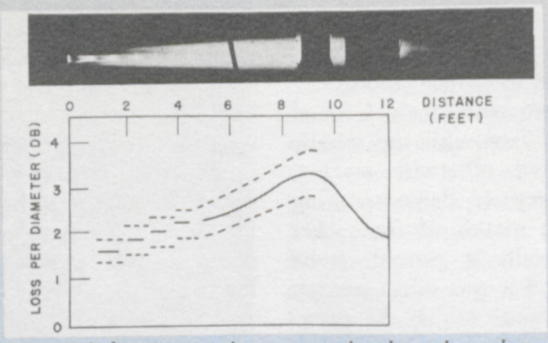


Fig. 2. Loss of electromagnetic energy varies along the rocket exhaust

The maximum insertion loss usually occurs near or slightly beyond the middle of the visible flame. Absorption along a given path is not steady but varies randomly with time. The deviation of the absorption about the average value appears to be gaussian to a wide-band receiver. The RMS deviation is shown by the dashed lines. Preliminary analysis of the absorption deviation in the exhaust of small rocket motors indicates the frequency distribution to be essentially white below 3000 cycles with very little energy at the high frequencies. Acoustical noise measurements with full-scale motors show a similar distribution which goes to a higher frequency and has some resonances.

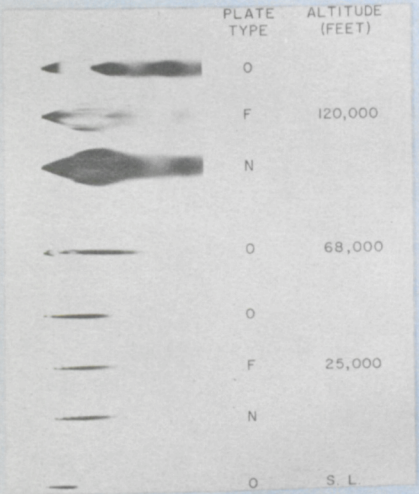
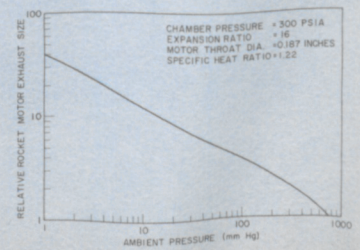


Fig. 3. Rocket motor exhaust-flame appearance varies with altitude

The increase in exhaust size and the change in flame configuration with altitude is shown. Wide variations in exposure are required to photograph the exhaust over the range of altitudes. Different types of spectographic plates show different details, particularly at the highest altitude.

Fig. 4. Motor exhaust flame grows with altitude

The distance between the various flame boundaries increases proportionately with altitude. For example, the percentage increase in the distance from the motor throat to any shock node for a given altitude change is about the same as the increase in shock node diameter. One exception is the cone right off the exit plane which remains fixed in size. Experimental results agree fairly well with simple theory, results of which are shown in the figure below. Deviation is most pronounced at the lower pressure. Continued experimental agreement with the simple theory at the higher altitudes is questioned. Nodes disappear at a given back pressure with proper exit venturi design but return at higher altitudes following the same growth pattern. These studies were made in static thrust, the flame growth under flight-simulated conditions not having been investigated.



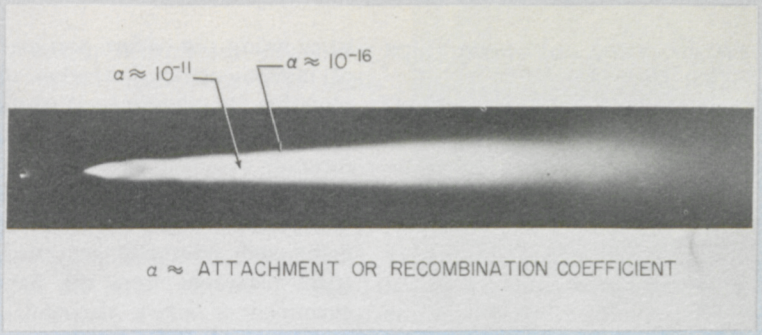


Fig. 5. Attachment coefficient varies with flame position

In absorption, the electromagnetic wave gives up energy in accelerating the free electrons of a gas. The heavy ionized particles do not extract much energy from the wave since absorption is a function of the reciprocal of the mass of the ionized particle. As a consequence, as soon as an electron attaches to a neutral particle or combines with a positive ion, it ceases to have a material influence on the radio wave. At low temperatures the probability of attachment to a neutral particle is very great. At high temperatures, electrons attaching to a neutral particle are quickly knocked free again by particle collision, leaving only the less probable recombination mechanism as a means of free electron elimination. Preliminary studies indicate but do not prove that the effective capture probability increases rapidly with the radial distance from the flame axis as indicated above.

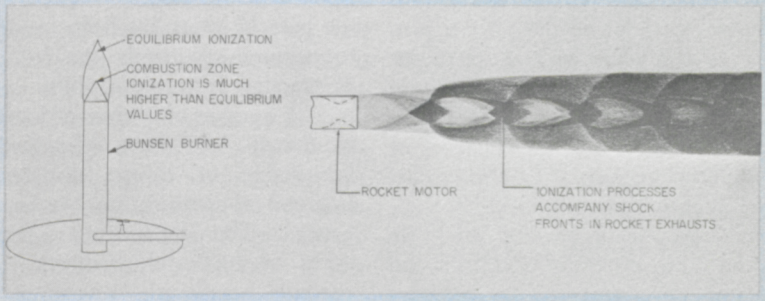


Fig. 6. Mechanisms of ionization

Thermal equilibrium processes determine the ionization in low-velocity flames far from the combustion zone. Calculations assuming equilibrium in rocket exhausts give electron concentrations many orders of magnitude below the experimentally determined values, indicating other mechanisms of ionization. The two values approach each other as the concentration elements with low ionization potential in the rocket fuel is increased.

An elementary theory explaning ionization in shocks has been hypothesized but further studies are required for its verification. The phenomena observed in rocket exhausts is similar to ionization in shock tubes or to ionization in the bow wave of the re-entry missile. Experimental evidence of the rocket exhaust shock ionization is illustrated in Fig. 1.

Ionization in combustion zones varies appreciable with the fuel and oxidizer and in some cases is many orders of magnitude larger than the values calculated from equilibrium thermodynamics. Although some details of possible mechanisms have been postulated for this ionization, the phenomenon is far from being understood.

Flames, Rockets, and Space Ships

(from Page 5)

istics was outlined and a series of experiments started. A detailed survey of phases of particular interest was to be left until after the completion of the exploratory measurements. Naturally, each new discovery opened up further phases to be covered in the initial survey. Today, some 10 years later, the survey is still continuing.

A number of different flames are of interest and the nature of their electrical characteristics varies widely. Today the flickering, multihued fireplace flame is of most interest for moments of philosophic reflection, possibly for recalling moments in bygone years when it provided the short period of relaxation between the completion of the day's labor and the early trip to bed. It is only when we attempt to put the flame to modern utilitarian use that we get extremely interested in methods of improving the efficiency of the application, such as in commercial power plants, automobile cylinders or in rocket propulsion systems. When we examine the physical, chemical and electrical properties of the ordinary chemical flames we find many characteristics in common with nuclear reactions and with electrical gaseous discharges. It is only natural then to think of the full range of propulsion systems when examining the electrical properties of the rocket exhausts which have proven to be most amenable to experimental study.

In exploratory measurements in this broad field, progress is best made when using the widest possible range of instrumentations, whether the exploration be experimental, theoretical or a combination of methods. Experimentally two main classifications of instrumentation may be used, passive in which the interaction between the flame and externally generated electrical radiations from the flame are examined or active electrical signals are examined. Either of these methods may utilize the entire spectrum from direct current through subaudio, audio, radio, microwave, millimeter wave, far- and near-infrared, visible and ultraviolet waves. Wave lengths shorter than the ultraviolet appear to have negligible application today but may become pertinent in the higher energy systems of the future. Needless to say, the past 10 years has been insufficient to explore adequately the full range of practical instrumentations.

A number of sources of ionization in flames have been identified and knowledge of charge transfer and eventual re-combination has been enhanced. The dependence upon the types of fuel and oxidizers is only partially explored, revealing large

and presently unexplained differences. Many of the flame ions have been identified and continued efforts are expected to reveal details of the combustion processes not previously considered. The wide variation in the previously observed results are understood at least, even though not conquered.

For the most part, the indicated variations were due to aspects of the interaction-type instrumentation which were not properly evaluated. This difficulty still exists, the boundary conditions in two of the most popular methods of exploration still being inadequately evaluated to permit reliable interpretation. These two methods, one of which uses probes inserted into the flame and the other of which surrounds or partially surrounds the flame with an electrically resonant cavity, are very popular since the instrumentation is readily established and is of high sensitivity. The continued use of such instrumentation is understood, but the release of experimental results without adequately representing the undetermined errors resulting from the unknown boundary conditions is deplored.

A better method which uses a focused beam of electromagnetic energy has proven to be far superior to other techniques insofar as precision and accuracy are concerned. It is true that it has low sensitivity and poor spatial resolution. These two difficulties are surmounted by using flames with relatively high ionization and large cross section. Rocket motor exhaust flames have been utilized predominantly for such studies although large pre-mixed low-pressure flames have been examined in some detail. Recently, mass spectrometer studies in England and Belgium have resulted in rapid progress in determining the ion

Professor Balwanz became a University Federalite 24 years ago. He came to Washington from the coal mines of Eastern Ohio, where he had worked before and after completing high school. The day he arrived in Washington he went to work as a typist at Civil Service Commission, and the day after, he sought admission as a student at the University. Completing the Bachelor of Electrical Engineering after 6 years of evening studies and progress at the Commission to the job of Civil Service Examiner, he transferred to Naval Air Station, Anacostia, then to Naval Air Test Center, Patuxent River as Radio Engineer, designing and testing aircraft. After the war he worked on a new integrated aircraft electronic system at Naval Research Laboratory where he still is employed as Research Engineer. Completing master's studies at University of Maryland in 1948, he began investigations of electrical properties of flames. This work as a Government employee has catapulted him into a dizzying number of applications of his findings which intrigue not only engineers but the general public. He has been diverted into developing instrumentation and is now at work on space simulation facilities. In the field of general space propulsion, he explores nuclear, ionic and plasma propulsion systems. He recently completed conferences on combustion processes and interactions in ionized media in Europe at universities and laboratories in England, Germany, Belgium, and France.

composition of small laboratory flames.

Pressure effects have been and continue to be investigated. Phenomena readily observed at one pressure are concealed at other pressures. Flame dimensions vary appreciably with pressure, and this variation has been investigated. Flames ranging in size from the smallest laboratory flame up through the large intense exhaust of the largest rocket motors have been examined. Space simulation facilities have been utilized for studies up to the equivalent of 30 miles of altitude for a number of years, and new facilities for better simulating outer space conditions are being investigated.

The extension of investigations to the nuclear, ionic and plasma exhausts of the space ship of the future has already started in the laboratory and will continue to be explored as the large practical propulsion systems are developed.

The feasibility and practicability of such systems has been adequately demonstrated, only the engineering details remain to be developed. The space ship of the future, realizable within this century provided that adequate support is available, will undoubtedly contain a nuclear power source to generate the electricity necessary to drive the high-energy ion or plasma propulsion system. It is expected that the continued study of the electrical properties of chemical, nuclear and electrical flames will provide the background for much of the engineering development required in such space ships.

Belton O. Bryan LLB 38, American Consul General at Glasgow in Scotland, pays his respects to Her Majesty, Elizabeth of England.

Prof. Kenneth A. Shutts, associate in history, lectures on the Development of the Civilization of the United States.

New Classes at the FBI

THE FEDERAL Bureau of Investigation this Fall made available to its employees off-campus courses of the University's College of General Studies, thereby becoming the newest of the Government agencies to offer such courses.

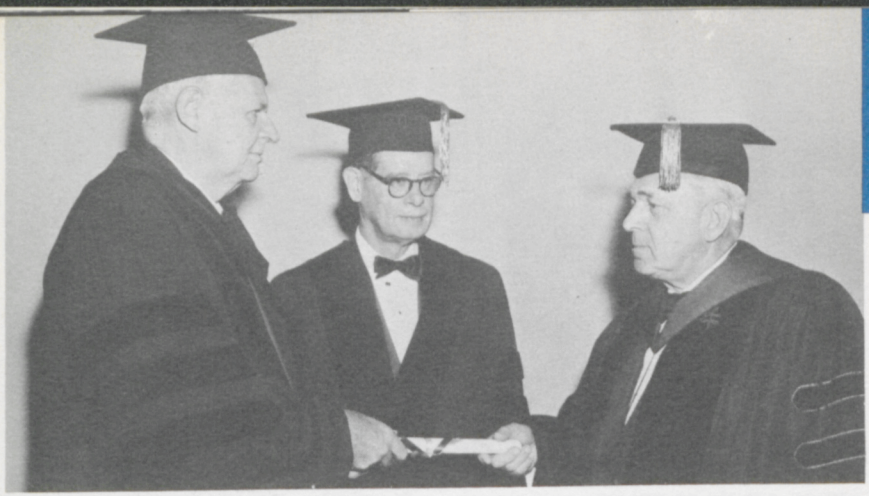
More than 350 employees registered for the courses held in the FBI Identification Building at 2nd and D Streets, S. W. Courses were held in the early afternoon as well as in the evening from 6 to 8:30 to accommodate both day and night workers.

Spring semester courses scheduled at the FBI as the *Federalist* went to press were: Introductory Accounting, Principles of Economics, English Composition, History of the United States, Plane Trigonometry, Government of the United States, Intermediate Shorthand and Transcription, Psychology of Adjustment, and Elementary Spanish.

Registration will be held on February 9 for FBI employees working at the Justice building and on February 10 for FBI employees working at the Identification building.

Further information about courses may be secured from the FBI Personnel Office, EX 3-7100, ext. 402. Alexander G. Rose III, Assistant Director of the Off-Campus Division in the University's College of General Studies, ST 3-0250, ext. 487, is University Coordinator of the program.

The College of General Studies offers off-campus courses in 46 installations and agencies, most of them in Federal Government. Courses offered may lead to the Associate in Arts, the Bachelor of Arts, or the Bachelor of Science in Cartography, and to Master of Arts degrees in the fields of Governmental Administration, Controllership, or Personnel Management.



University President Cloyd H. Marvin congratulates Judge Walter M. Bastian, Circuit Judge, United States Court of Appeals for the District of Columbia Circuit (left) and Mr. Benjamin M. McKelway, Editor, *The Washington Star,* both University trustees who received honorary degrees at Fall Commencement.

WALTER MAXIMILLIAN BASTIAN

Holding degrees from Georgetown and National Universities in the District of Columbia where he grew up; ably schooled in the practice of the Law, believing with Francis Bacon that

> "There are in Nature certain fountains of justice whence all civil laws are derived but as streams."—

Friendly colleague; understanding humanitarian; wise servant in governmental undertakings. President of the District Bar Association; Treasurer and member of the House of Delegates of the American Bar Association; Judge of the United States District Court for the District of Columbia, and presently Circuit Judge of the United States Court of Appeals, District of Columbia Circuit.

Doctor of Laws, *honoris causa*

BENJAMIN MOSBY MCKELWAY

Born in North Carolina, he has given the days of his maturity in the nation's capital; he attended the Virginia Polytechnic Institute and The George Washington University. His service in the First World War was notable. His dedicated professional life has been given to the Fourth Estate as reporter, editor, and administrator, and has proved him clear-minded, sagacious, cosmopolitan; his analytical work, supported by quiet will, has wrought a steadfast understanding of the world's problems. His judgments are marked by high loyalties. He is a natural administrator who finds pleasure through a healthy curiosity posited against a background of real and human understanding.

Doctor of Letters, *honoris causa.*

Fall Convocation

The citation honoring Alumnus Jose Abad Santos was received at Fall Convocation by Alumni President Otto Schoenfelder and forwarded to Philippine Alumni Club President P. M. Silva.

Jose Abad Santos

The George Washington University

herein honors

José Abad Santos

Scholar of distinction and man of deep spiritual conviction, for his strength of character, passion for freedom, and love of God and of his country for which he gave his last full measure of devotion.

A natural leader of men, in war and in peace he was repeatedly called to serve his people in high public office. When his beloved country fell into the hands of the enemy, he was of that consecrated group of patriots which struggled to preserve their government in spite of the occupation. Through his leadership, he helped maintain the life of a captive but unconquered nation. Forced to move rapidly from place to place to avoid capture, he discharged the multiple duties of Chief Justice; Secretary of Justice; and Acting Secretary of Finance, Agriculture, and Commerce. He was virtually head of government of the Commonwealth of the Philippines. Despite the frailty of his health, he chose to remain with his people, rather than accept safety in the United States. On April 11, 1942, he was captured. Unwilling to betray his trust or to renounce his oath of allegiance to the United States of America and the Commonwealth of the Philippines, he was executed in May, 1942. His last words, spoken to his son, showed true nobility: "It is a rare opportunity to die for one's country. Not every one has that chance". So passed into history, José Abad Santos: patriot, jurist, educator, statesman, and martyr.

The George Washington University is proud to have had a part in his education and to have conferred upon him the degree of Master of Laws in 1909. The University is proud today, as the life and services of José Abad Santos are being commemorated throughout his native land, to offer its tribute to the memory of a truly great man who held his own life cheap when human honor, dignity, and decency were at stake.

In testimony whereof, witness our signatures and the seal of The George Washington University hereunto affixed in the City of Washington on the eighteenth day of October in the year of our Lord, nineteen hundred and fifty-eight and of the University, one hundred and thirty-eight.

Chairman of the Board of Trustees

Cloyd H. Marvin
President of the University

Homecoming

University Dean of Faculties O. S. Colclough greets Rear Admiral Charles L. Melson, Superintendent of the U.S. Naval Academy.

There's more than the score to a Homecoming Game—especially one with Navy.

Termed the season's "Mud Bowl" game, it brought Navy to Washington to play football for the first time in 24 years. It rained, and Navy won.

The Colonials whistled and beat the drum. The Middies paraded. University faculty howled under their umbrellas while University students paraded some 30 floats and various goats and braved the weather bareheaded, in fedoras and skimmers, and occasional hats. Dignitaries representing the op-

posing teams smiled confidently at half-time when the score was a tie at 6-6.

The final score became 28-8 when Navy seized the ball on the 10 yard line and Halfback Bob Correll raced into the end zone in the last minute of play.

ALUMNI DINNER

There were many Federalites among the more than 300 who attended the Buffet Dinner in the gymnasium during homecoming.

Associate Dean of Medicine Alvin E. Parrish, Judge George D. Neilson LLB 33, District Municipal Court, Mrs. Neilson.

Mrs. Winifred Hutchins Grant LLB 41; Mrs. James F. Perrin LLB 41, Attorney, Housing and Home Finance Agency; James F. Perrin, Transportation Economist, Commerce Department.

Maxine Girts AB 23, AM 32; Judge Bolon Turner AB 22, LLB 22, LLM 24, Tax Court of the United States; Mrs. Turner AB 22.

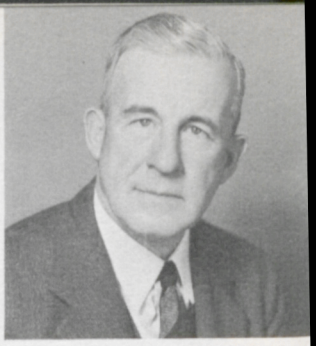
J. Frank Doubleday AM 55, Comptroller's Office, General Services Administration; Mrs. Doubleday; Homecoming Queen Finalist Sally Ludlow; Mrs. Reginald Barta; Mr. Barta AB 58, HQ U.S. Air Force.

Stephen R. Woodzell BS in EE 33; Professor Emeritus Benjamin W. Cruickshanks BS in ME 20; Mrs. Stephen R. Woolhiser; Mr. Woolhiser BS in EE 33, of Coast and Geodetic Survey.

Former Congressman from Ohio Calvin D. Johnson was guest speaker. He is greeted by Jack Morton AB 36 (center), Alumni Homecoming Chairman, and Mrs. Max Farrington, wife of the Assistant to the President.

Elwyn Bonnell EX 50, Fiscal Economist, Treasury Department; Mrs. Edith H. Johnson AB in Ed 50, U.S. Office of Education International Division; Gertrude Heare AB 28, AM 33, International Trade Analyst, American Republics Division, Commerce Department; and Mrs. Bonnell EX 50.

Patent Commissioner Named Kettering Winner for Research and Educational Work



ROBERT C. WATSON, United States Commissioner of Patents, will receive the 1958 "Charles F. Kettering Award for Meritorious Work in Patent, Trademark, and Copyright Research and Education." The award, which is presented annually by the Patent, Trademark, and Copyright Foundation of the University, is given for outstanding work in the field of patent, trademark, and related areas.

The late Dr. Kettering, in whose honor the award is named, was a member of the Advisory Council of the Foundation, which is engaged in a comprehensive study of the principles, facts, and practical operations of the patent, trademark, copyright, and related systems of the United States and other countries. Dr. Kettering was one of the six national leaders in research who were named Honorary Members of the Foundation at its inception, and he aided in its formal establishment in 1954.

As the recipient, Commissioner Watson will receive an honorarium and an appropriate citation. The presentation will be made at the third Annual Public Conference of the Foundation, to be held June 24 and 25, 1959, at the Mayflower Hotel in Washington, D. C.

Commissioner Watson played an important role in the establishment of the Patent, Trademark, and Copyright Foundation, and was one of three distinguished patent attorneys appointed in July 1952 as National Directors of the Foundation's Area Committees. He withdrew as a National Director by reason of his appointment as Commissioner of Patents, and accepted an invitation to serve as an *ex officio* member of the Foundation's Advisory Council, in which capacity he actively continues. Among the projects under his direction as Commissioner, the Patent Office is currently engaged in a comprehensive research study on the devising of mechanized patent searching facilities; he also has sponsored a series of highly successful public exhibits illustrating technical advances through invention, and has established an Office of Information Service in the Patent Office.

A patent lawyer for more than forty years, Commissioner Watson is the author of numerous articles and addresses on the patent system. He served as President of the American

Patent Law Association in 1950-51, and as Chairman of the Section of Patent, Trademark, and Copyright Law of the American Bar Association in 1946. Last year, he was awarded the Jefferson Medal by the New Jersey Patent Law Association for his role in modernizing the operations of the U. S. Patent Office and for his continued service to the patent system.

Commissioner Watson is a graduate of Lehigh University and The George Washington University Law School. A former trustee of Lehigh, he was awarded an honorary Doctor of Laws degree by that institution in 1954, and by The George Washington University in 1957. He is a member of the American Law Institute, the American Bar Association, the American Patent Law Association, and the Federal Bar Association. He is also a member of Phi Delta Phi and Psi Upsilon fraternities.

The award was presented the first time for the year 1957, when the recipient was S. Chesterfield Oppenheim, Professor of Law at the University of Michigan.

Final selection of Commissioner Watson to receive the Kettering Award was made by a six-man Board of Review of the Foundation: Cloyd H. Marvin, President of The George Washington University; O. S. 'Colclough, Director of the Patent, Trademark, and Copyright Foundation and Dean of Faculties of the University; L. James Harris, Executive Director of the Foundation; Lawrence R. Hafstad, Chairman of the Foundation's Advisory Council and Vice President in Charge of Research of General Motors Corporation; John C. Green, Executive Director of the National Inventors' Council, Department of Commerce, representing the Research Staff of the Foundation; and Fulton B. Flick, of Brown, Critchlow, Flick, and Peckham, Pittsburgh, Pennsylvania, representing the Foundation's National and Area Committees.

Representative Brooks Hays LLB 22, a member of the University Board of Trustees, was honored at a testimonial dinner attended by 600 friends, following his defeat at the Arkansas polls after a Congressional career of eight terms in office. He is shown here (left) with Master of Ceremonies Colgate W. Darden and Mrs. Oswald B. Lord, member of the United States mission to the United Nations.

APPOINTMENTS

GEORGE J. ANZELON MBA 57, Lt. Col., is the new Executive Officer of the Air Force Academy Construction Agency, Colorado Springs, Colo.

LAUREN A. ARN LLB 49, Colonel, has been named Executive Officer of the Judge Advocate Division, Headquarters, U. S. Army, Heidelberg, Germany.

GARRY E. BROWN LLB 54, has been named U.S. Commissioner for the Southern Division of the Western Michigan District Federal Court.

JOHN E. EDWARDS EX 48, has been appointed special agent in charge of the Buffalo FBI office.

WALTER E. ELDER LLB 38, has been appointed Regional Director of the Civil Service Commission's Tenth Regional Office at Denver, Colo. Mr. Elder has been Deputy Director since 1946.

J. WESLEY JONES AB 30, has been appointed Deputy Assistant Secretary of State for European Affairs.

WILLIAM W. KRAMER JD 47, has returned from Korea to First U.S. Army Headquarters, Governors Island, as Executive Officer and Chief of the Military Affairs Division, First Army Judge Advocate Section.

LOUIS LEVATHES EX 38, has accepted the position of executive assistant to Juvenile Court Judge Orm W. Ketcham in Washington D.C. Mr. Levathes was previously assigned to the Judge Advocate General's office. He has worked previously in the field of military justice and judicial review.

WILLIAM F. MARLOW BS 41, has joined the Radioactivity Section of the National Bureau of Standards.

C. C. MCSWAIN EX 42, who has been a member of the Atomic Energy Commission's Oak Ridge Operations staff since 1952, has been appointed Director of the Security Division in AEC's Chicago Operations office.

JOHN D. MERWIN LLB 48, has been appointed by President Eisenhower and con-

The Admiral and the Generals Present . . .

Arthur G. Logan LLB 26, Delaware's Civilian Aide to Secretary of the Army for the past four years, accepts from Lt. Gen. Charles E. Hart, Second U.S. Army Commander, the Department of Army Certificate of Appreciation in recognition of his patriotic service.

Everett H. Woodward AB 38, was presented with the Navy's Sustained Superior Accomplishment Award by Rear Admiral H. D. Baker, Commandant of the Potomac River Naval Command. Mr. Woodward was cited for outstanding performance as a member of the Professional Council and Executive Secretary of the Board of U.S. Civil Service Examiners for Scientific and Technical Personnel of the Potomac River Command.

firmed by the Senate as Governor of the Virgin Islands.

PRENTICE G. MORGAN AB 31, Lt. Col. U.S. Army, has been named acting chief of the Organization and Training Division of the First Army. He was a news writer with Gannett newspapers and *The Troy Record* before entering the service in 1941.

JOSEPH A. MOSS LLB 40, has been appointed Deputy Director of the Cotton Division, Commodity Stabilization Service, Department of Agriculture.

ALFRED A. ROBINSON EX 49, Colonel, has been named Chief of Army section, Supply Liaison Group between the Department of Defense and the North Atlantic Treaty Organization.

ALLEN R. STICKLEY BS 55, has joined the Commission of Game and Inland Fisheries at Newmarket, Va., as game biologist.

CHARLES A. SWEENEY LLB 35, has been named Head, Radio and Television Advertising Unit, Federal Trade Commission.

Col. James K. Gaynor LLM 53, SJD 57, and Mrs. Gaynor are shown in the Ryukyu Islands immediately following the presentation of his university law degree by the Commanding General of USARLIS, Lieut. Gen. James E. Moore. The degree, Doctor of Juridical Science, was awarded in absentia at the University Commencement, then forwarded to the Islands for presentation.

HONORS

OLIVER BOWLES PhD 22, former chief of the nonmetallic economics division of the U.S. Bureau of Mines, was posthumously presented with the first Hal Williams Hardinge Award of the American Institute of Mining, Metallurgical, and Petroleum Engineers. The citation on the plaque reads: "An indefatigable worker, a most kindly man and warm friend to all, for his signal services in the field of industrial minerals." Dr. Bowles is survived by his wife and two sons, to whom the award was presented.

PAUL J. CULLER AB 56, who is a staff member of the office of the Army Chief of Transportation has received the Meritorious Civilian Service Award and an award for Sustained Superior Performance of Duty, in recognition of his performance of duties as regards public relations activities of the Transportation Corps.

MORTON FISCHMAN BEE 53, is one of ten Navy employees sharing a $5,000 award for their effort in the development of a still classified communications project at the Naval Research Laboratory. In 1956 Mr. Fischman was presented a Meritorious Civilian Service Award.

J. EDGAR HOOVER LLB 16, LLM 17. LLD 35, was one of the first recipients of President Eisenhower's award for "exceptionally meritorious civilian service" to the Government. Mr. Hoover's citation praised him for "brilliant leadership" as chief of the Federal Bureau of Investigation.

KENNETH D. JACOB MS 26, Chief, Fertilizer Investigations Research Branch, Soil and Water Conservation Research Division, U.S. Department of Agriculture, has been awarded the 1958 Harvey W. Wiley Award of the Association of Official Agricultural Chemists. Mr. Jacob was chosen to receive the $500 award for 40 years of public service in the fields of fertilizer technology and analysis.

ARTHUR G. LOGAN AB 25, LLB 26, Delaware's outgoing Civilian Aide to Secretary of the Army, was given official recognition with honor guard ceremonies at Second U.S. Army Headquarters upon completion of his four years of civilian service. Following the ceremony, Mr. Logan was awarded the Department of Army Special Certificate of Appreciation.

F. M. RHODES LLB 40, Director of the Cotton Division of the Commodity Stabilization Service of the Department of Agriculture has received a Superior Service Award.

BOURDON F. SCRIBNER BS 33, Chief of the Spectro-chemical Section, National Bureau of Standards, received the Award of Merit from the American Society for Testing Material presented at the ASTM Annual meeting in Boston. The award recognized his leadership and service in committee work and publishing in the field of emission spectroscopy.

HARRY H. SEMMES LLB(wd)16, BS 13 Dartmouth College, received an Alumni Award from Dartmouth College. Mr. Semmes was decorated in both wars and was vice-chairman of the National Security Council, and in 1955 wrote a biography of his comrade-in-arms, General George Patton.

RAY P. TEELE MS 29, of the National Bureau of Standards, was one of 10 prominent lighting designers and engineers recently named Fellows of the Illumination Engineering Society. The honor is the highest degree of membership in the professional organization.

WILLARD H. WRIGHT DVM(wd)17, PhD 35, was awarded the Walter Reed Medal for achievement in tropical medicine and hygiene. Dr. Wright retired last June after serving for 22 years as chief of the Laboratory of Tropical Diseases, National Institutes of Health.

RETIREMENTS

ROGER T. BOYDEN BS in CE 21, Director of I.C.C. Bureau of Finance, has retired after 42 years' service with the Commission.

OTHER

FRANK E. MOSS AB 33, JD 37, has been elected Senator from Utah.

The organization chart for the Department of Agriculture shows three major offices held by graduates of the University. They are: RALPH S. ROBERTS LLB 33, Administrative Assistant Secretary; MILLER F. SHURTLEFF AB 50, Executive Assistant to the Secretary; G. OSMOND HYDE LLB 26, Chief, Office of Hearing Examiners.

Ann Devlin, Information Officer at the Department of Labor, reports the following University alumni employed in the Bureau of Labor Statistics—JOSEPH GOLDBERG, ANN HERLIHY, MARY FRANCES MARSHALL, DOROTHY B. HOWARD, HAROLD ROSENTHAL, BORIS YANE; in the Bureau of Employment Security—ABRAHAM ABRAMOWITZ, JULIA E. BON DURANT, and LOUIS LITSKY; Wage and Hour and Public Contracts Divisions, FLORENCE DUNN, TOBA S. HERZENBERG, NATHAN RUBENSTEIN, SANDOE WINDHEIM; Women's Bureau, GRACE FERRILL and EDITH FIERST; Bureau of Employees' Compensation, S. JONES HILL; Office of the Solicitor, ALVIN BRAMOW.

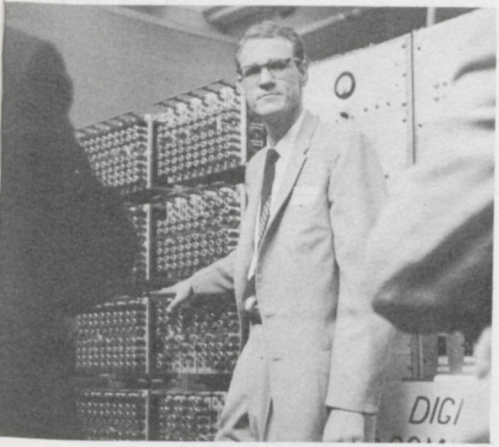
—KAREN MUNSKE

Air Force Brig. Gen. Cecil E. Combs, Commandant Air Force Institute of Technology, Wright-Patterson Air Force Base, addressed 32 graduates of the University's Air Force Advanced Management Program. Dean O. S. Colclough (right) delivered the charge to the graduates. Dr. David Springer Brown (left) is coordinator of the Air Force Advanced Management Program.

Parents' Day

Parents of full time freshmen enrolled at the School of Engineering visited Tompkins Hall this Fall as guests of the engineering faculty and the Engineering Alumni Association.

Woodrow W. Everett, President of the Engineer's Council, demonstrates the electronic equipment to Dean Martin A. Mason of the School of Engineering.



Instructor in Electrical Engineering Neely F. J. Matthews demonstrated the digital computer installed in Tompkins Hall for student use this year. The computer was used nearly a decade for a Navy Logistics Research Project carried out under contract by the University for the Navy.

Among those greeting parents were Assistant Dean of the School of Engineering Carl H. Walther; Assistant Director of Development Marvin W. Topping, and President of the Engineering Alumni Association Herb Rosen BEE 50, who is Deputy Director of the Office of Information, National Aeronautics and Space Administration.

Many Federalites will remember the four deans of the School of Engineering whose portraits were presented by the Engineers' Council on behalf of the engineering students. From left, Dean Howard L. Hodgkins (1906-1922); Dean Hugh Miller (1922-1926); Dean John R. Lapham (1926-1939); and Dean Frederick M. Feiker (1939-1951).

Federal Judges

Two Federal judges and a well known Washington attorney found Mrs. Nancy Provost D'Amico able counsel when she won the Van Vleck Case Club Finals at the University Law School, thereby besting more than 60 fellow student competitors.

Members of the moot court as they appear above with Mrs. D'Amico are the Hon. William J. Brennan Jr., Associate Justice of the Supreme Court, who served as Chief Judge and presented the winner with a copy of Ballentine's *Law Problems;* the Hon. Charles Fahy, Circuit Judge, the United States Court of Appeals for the District of Columbia Circuit; and (right) Mr. Newell W. Ellison, local attorney, Law School alumnus, and a member of the University Board of Trustees.

Mrs. D'Amico represented Counsel for the United States in the mythical case of United States v. Akkro Corporation, involving the constitutionality of a part of the U.S. Code which prohibits corporations and labor unions from making political expenditures.

The Engineer Administrators

Now beginning its fourth full year, the graduate program in Engineering Administration at the School of Engineering of The George Washington University seems to meet an urgent need in the engineering programs of government as well as industry.

Approximately 600 Engineers from all fields have enrolled in its courses since establishment of the curriculum in 1955.

Designed to give the practicing engineer in any field a sound training in administration of laboratories, projects or businesses, the program has drawn students from most of the local and national offices and firms engaged in engineering in the Washington area.

The more than 350 graduate students enrolled last semester came from 23 Federal agencies, 37 private firms and three other schools of engineering.

Among the government offices listed as jobsites for students in Engineering Administration courses are all three armed services . . . especially the bureaus of the U.S. Navy, National Security Agency, Atomic Energy Commission, Central Intelligence Agency, Civil Aeronautics Administration, Bureau of Standards, and National Science Foundation, all of which employ numbers of engineers in research or applied engineering.

The 37 private firms with offices in the Washington area from whose staffs students came last semester included E. I. DuPont, Douglas Aircraft, Bendix Radio, A. C. F. Electronics, General Electric, General Motors, Litton Industries, the Martin Company, Melpar, and Westinghouse Electric.

The Director of the Engineering Administration Program is Dr. Jack E. Walters.

Official parents are onlookers when sons and daughters are graduated. Above Administrative Secretary Adolfo Spargnapani watches Adviser to Foreign Students Alan T. Deibert congratulate Paul Spargnapani. Below, Mr. and Mrs. Takeshi Kimura see their daughter, Yukiko, receive the best wishes of Milbank Professor of Religion Joseph R. Sizoo. Mr. Kimura is the Japanese Agricultural Counselor in Washington.

Foreign Students Study Public Administration USA

GRADUATE COURSES in public administration of special interest to foreign students are being offered this year by the University's Department of Business and Public Administration.

The University's credit course in Comparative Administrative Systems now has an enrollment of 10 Americans, 2 from Thailand, 2 from Indonesia, and 1 from Ethiopia. Purpose of the class has been to examine and analyze the administrative systems of the major foreign governments with particular attention to practices applicable to administration in the United States.

Lectures have been supplemented with special talks by persons experienced in the subject matter. For example, four administrative employees of the Federation of Malaya, recently spoke to students about the adaptation of British administrative systems to

Malayan government employees tell of British administrative systems adapted for use in Malaya. They addressed the foreign student seminar in public administration. From left, Krishna Ram Chandra of Singapore, Assistant Secretary, Ministry of Local Government, Lands and Housing; and the following District Officers from Malaya, Ayed Zahiruddin, Batang Padang, Perak; Jamaluddin Haji Ujang, Port Dickson, Negri Sembilan; and Raja Azam, Kuala Selangor. All four are participants in the Foreign Specialists Exchange Program of the U.S. State Department's International Exchange Program.

Voters in Bethesda, Md., were observed by a group of Austrian industrialists and businessmen in the United States under ICA sponsorship. They are on a tour arranged by the University Department of Business and Public Administration, designed to give them information on industry-education cooperation of value in establishing an industrial engineering school in Vienna.

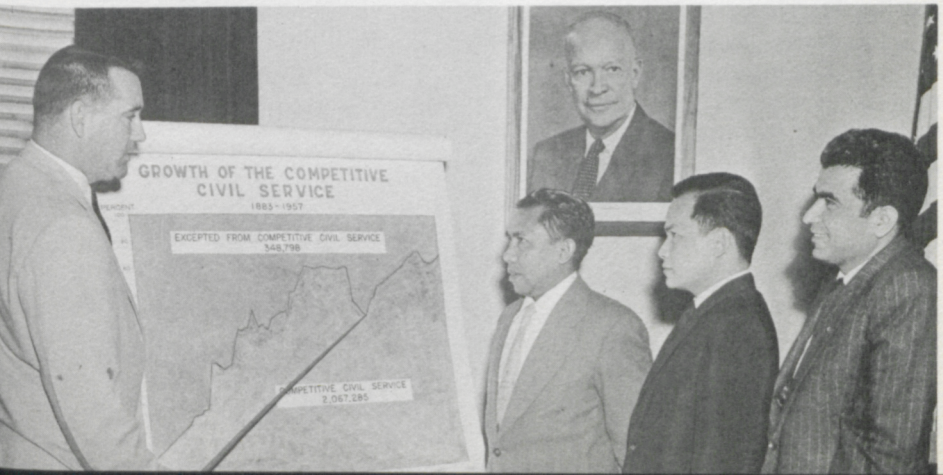
the underdeveloped countries of Malaya and Singapore.

This Fall a special non credit seminar in public administration has been offered by the University for 15 students from Afghanistan, Indonesia, Iran, El Salvador, Paraguay, Thailand, and Turkey.

These students, all government officers or employees in their own countries, are studying full time at the University under the joint sponsorship of International Cooperation Administration and their own respective governments.

The seminar has as its purpose

J. Douglas Hoff, Manager of the College and Foreign Visitor Program of the U.S. Civil Service Commission, received members of the foreign student seminar from the University at Commission headquarters.



the helping of students to understand American problems and procedures through classroom lectures and also through visits to Government agencies. Trips have been made to the Bureau of Naval Personnel where use of the IBM 705 computer in processing personnel records was demonstrated. More recently the seminar students were guests of the Civil Service Commission where they considered personnel administration practices and policies of American Federal Government.

The University's Department of Business and Public Administration also assists ICA in planning tours for visiting groups of scholars and industrialists. Tours are planned in terms of the groups' specialized interests and also in terms of the general orientation of the visitors to American customs.

This Fall, for example, the Department planned and directed the visit of seven Austrian educational and business leaders to this country to study methods of cooperation existing between the universities and industry. Their visits took them, among other places to Boston, New York, Pittsburgh, Chicago, Detroit, Los Angeles, and San Francisco.

In addition to its special activities, the Department encourages enrollment of qualified foreign students in its regular business administration, public administration, and personnel administration curricula. For many years students from other countries have participated in these courses, many of them receiving advanced degrees.

Meetings of the Washington Foreign Law Society

Wednesday, January 28, 1959

12:15 p.m. Army and Navy Club, 17th and I Streets, N. W.

FOREIGN LAW PROBLEMS IN ISSUING SECURITIES

Chairman: CHARLES R. NORBERG, ESQ., Chairman, Foreign Investment Committee, Inter-American Bar Association

Speaker: JOHN R. STEVENSON, ESQ., Sullivan and Cromwell, New York City

Monday, March 9, 1959

8:15 p.m. The George Washington University Law School

MARITAL RIGHTS IN FOREIGN LAW

Chairman: EDGAR TURLINGTON, ESQ., Counsel to Roberts and McInnis, Washington, D. C., Vice President, American Society of International Law

Speaker: PHILIP W. AMRAM, ESQ., Amram, Hahn and Sundlun, Washington, D. C.

Saturday, April 18, 1959

12:30 p.m. Army and Navy Club, 17th and I Streets, N. W.

FRANCE UNDER THE NEW CONSTITUTION

Chairman: ERNEST SCHEIN, ESQ., Attorney, Washington, D. C.

Speaker: THE HONORABLE ROBERT VALEUR, Minister, Embassy of the French Republic

New Spring Courses

THE UNIVERSITY will offer new course material in 8 areas of study during the Spring Semester.

In the Department of Business and Public Administration, Commercial Air Transportation. Students will consider the development, economic characteristics, rates, regulation, types of carriers, operations, and regulatory policy of commercial air transport operations. In addition to the instruction regularly scheduled, several speakers from the air transport industry and regulatory agencies will speak to the class during the course. "Data Processing" will be offered to give students an opportunity to study electronic equipment as it would be used in a business or government agency. The actual mechanics of running a machine will not be a part of the course. Students will consider selecting and adapting data processing equipment, characteristics of leading systems, and elements of programming.

In the Department of Chemistry, Descriptive Inorganic Chemistry. It is an intermediate level course emphasizing the descriptive chemistry of the elements. It is designed to fill the need for a more focused study of inorganic chemistry at the undergraduate level.

In the School of Education, Educational Measurement is being given for elementary teachers, secondary teachers, and guidance counselors. The course will include study of basic measurement techniques; construction, selection, administration, and interpretation of objective and essay-type examinations; statistical analysis of test results; and laboratory experiences in the use of test instruments. The course is being offered in response to requests from the field and to take care of certain certification requirements in specific states.

In the School of Engineering, a new course for senior students, Problems in Civil Engineering. In the Department of Electrical Engineering, Engineering Electronics. This includes introductory treatment of: physical concepts of electron-tube and semiconductor devices, their electrical characteristics, and their use in electronic circuit applications as well as linear and nonlinear methods of analysis. This course has been developed by the Department of Electrical Engineering to offer all engineering students an introduction to the concepts and principles of electronics because in modern times all engineers are required in some way to deal with electronic devices. Measurements and Electronics Laboratory, also in the Department of Electrical Engineering, is being offered to give students an opportunity to engage in laboratory study in connection with the course in theory of electrical measurements which the

(Continued on Page 35)

Focus on

The University's participation in a three months series of network broadcasts on Latin American affairs has stimulated interest in hemispheric affairs on the part of students and the public at large.

Produced in conjunction with the National Broadcasting Company and the Organization of American States, the series has been aired nationally, and transcripts have been made available to listeners from coast to coast.

Programs have dealt with 12 countries. Guests have included scholarly specialists and political leaders from these countries. The University's Director of Latin American Studies, Dr. William Columbus Davis, has hosted each of the programs; and two University students of Latin America or from the University's departments of journalism or speech have asked questions.

Students from early grade school through college, officers of clubs, teachers, manufacturers, and housewives have asked for transcripts.

Details of the broadcasts were developed with Dr. Davis by Doris Corwith, Supervisor, Public Affairs Programs, National Broadcasting Company; Miguel Aranguren, Assistant Director of Public Information, Pan American Union; and Lillian Brown, Director of Radio and Television, The George Washington University.

Behind the scenes of a broadcast at the Pan American Union are University Students Wright Horn and Bonnie Banker; Dr. Hector David Castro, Ambassador from El Salvador; Dr. Jose A. Mora, Secretary General, Organization of American States; Dr. William Columbus Davis, University Director of Latin American Studies.

Latin America

Copies of transcripts of the radio series may be had as follows by writing to FOCUS ON LATIN AMERICA, The George Washington University, Washington 6, D. C.

1. **Argentina**
   Featuring Alejandro Orfila, Director of Public Information, Organization of American States.
2. **Brazil**
   Featuring Maury Gurgel Valente. First Secretary, Brazilian Embassy.
3. **Colombia**
   Featuring Miguel Aranguren, Assistant Director of Public Information, Organization of American States; Julio Gonzales, Western Hemisphere Department, International Monetary Fund.
4. **Peru**
   Featuring Carlos Gibson, Peruvian Delegate to the Economic and Social Council, Organization of American States.
5. **Uruguay**
   Featuring Julio Lacarte, Ambassador of Uruguay.
6. **Venezuela**
   Featuring Carlos Luis Gonzales, Assistant Director, Pan American Sanitary Bureau.
7. **Chile**
   Featuring Jorge Marshall, International Monetary Fund.
8. El Salvador
   Featuring Hector David Castro, Ambassador of El Salvador.
9. **Costa Rica**
   Featuring Fernando Hazera, Chief of the Division of Official Records, Pan American Union.
10. **Mexico**
    Featuring Vincente Sanchez-Gavito, Charge d'Affaires, Embassy of Mexico.
11. **Guatemala**
    Featuring Enrique Lopez-Herrarte, former Minister-Counselor from Guatemala.
12. **Panama**
    Featuring Ricardo M. Arias, Ambassador of Panama.

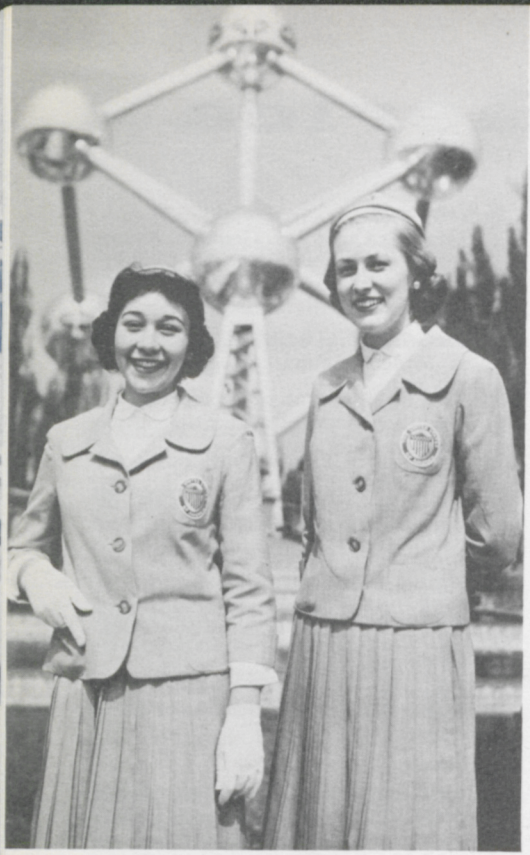
Latin American Studies

University studies leading to the Bachelor's, Master's, and Doctor's degrees are designed to give the student a clear concept of contemporary Latin America and a practical approach to inter-American political and commercial relations. They are based on the realization that a sympathetic understanding of the American republics comes only through knowledge of their history, politics and government, economics, geography, languages and literatures. Emphasis is placed on utilization, through supervised research, of the extensive library and archival materials available in Washington.

Columbian College.—Programs of study leading to the degrees of Bachelor of Arts and Master of Arts are available in Latin American Civiliza-

(Continued on Page 39)

Girl Guides at Brussels Fair



University Alumna Macotsin and University Student Anda Udris stand ready to give information and assistance to visitors.

As American guides at the Brussels World's Fair, our assignment was to stand next to one of the many exhibits of the Pavilion and to explain to visitors the functioning of the voting machine, the caricature drawings of the Steinberg murals, the typical operation of an American drug store, the habit of dress of the average American worker, the reasons for the

Aphrodite Macotsin AB 55 discovered that the job of giving information and assistance to visitors at the U. S. Pavilion at the Fair was a way of getting information, too. Here in a letter to Sue Scott Stockton AB 55, she tells about some of her discoveries.

Susan Levy received the Bachelor of Arts in French Literature at the University in 1957 before her assignment in Brussels. Then she worked a 40-hour, 5-day week in split shifts to help provide guide service for the U.S. Pavilion between the hours of 10 a.m. and 11 p.m.

unusually wide circulation of the "New York Times", etc. This task, however, is simply peripheral. Groups of people will saunter past, merely looking, and not uttering a word. They may or may not have comprehended your prepared speech; and you never know . . . unless you ask.

While I was on temporary duty in the theater one afternoon during the showing of the film, "South Pacific," I amiably asked a young Belgian if he were enjoying the show. He hesitated before saying yes; and as we continued to discuss the various scenes, he confessed that he was rather disappointed in seeing Rozzano Brazzi playing the part of the male lead. "We like to see American movie stars in your pictures, like Gregory Peck and William Holden, not Europeans. We look to your films with great eagerness and anticipation."

Casually sipping coffee one morning with a Spanish lawyer, I learned something of the ways and customs of the European girl, which was later confirmed by experience. For the most part, she enjoys the social approbation of family, friends, and neighbors by staying within the bounds of her home. She meets young men through her family circle or an organized dance. The family knows in advance the background, reputation and plans of the young man before the daughter is permitted to be seen with him alone. A young couple keeping steady company even as long as a month usually have serious intentions of marriage. The parents must approve of the place where the two people are planning to spend the evening. A typical night out might include a movie, a play, or a party which is given by friends of the family and properly chaperoned. Strangely enough, sports are not a popular pastime.

Fewer girls in Europe attend college than do in the States; and are, therefore, not exposed to many of the questions and problems we touch upon or which interest us. A young girl does not attend the university for a purely liberal arts education even if the family is financially able to send her. She

When Student Kathleen C. Crouch was a U. S. guide in Brussels, she found time to visit two alumni of the University, her parents, Mr. and Mrs. Edward C. Crouch in Barcelona, Spain. Mr. Crouch AB 36 is Consul General in Barcelona. Mrs. Crouch will be remembered as the former Katherine Wessels EX 33.

continues her higher education only if she has definite plans to go into a profession.

This is also true of the young man. His studies lead directly and specifically to his livelihood—be it doctor, lawyer, or engineer. Extracurricular activities are kept at a minimum. Perhaps a jazz or debate club; but football games, student councils, dance clubs are conspicuously missing. Except in countries where the government subsidizes the education of the outstandingly capable student, it is often difficult if not impossible for a young man from a family of modest means to attend a school of higher learning.

Stationed for six weeks next to the exhibit, "Islands for Living," which displays an assortment of appliances, machines, furniture, etc., curious visitors asked me, "Do most American housewives have washing machines?"

"What is the usual salary of a laborer, and can he afford a TV set?"

"I've heard your 'cuisine' is not too good; do you only buy frozen foods and eat TV dinners?" One woman was sure we put strawberries in our tomato soup!

After discussing these topics and subsequently making visits to several homes, I began to realize that refrigerators, sewing machines, electric ovens are luxuries few can afford or even look forward to acquiring. "It doesn't matter much," a Belgian worker explained. "We're happy. I make $120 a month, and we spend it on important things like food, clothes, transportation and whatever the children need. There's enough money left over to take a small vacation. Instead of that, this year we decided to take our time and visit the Exposition here at home. Sure, we eat well; it may not seem that way because we bring packed lunches rather than eat in the high-priced restaurants, but my wife is proud of her cooking, and I am too. When I'm working, she goes to the grocer, the butcher, and the cheese man—yes, every day if necessary since we don't have an icebox and things can spoil—gets everything ready and has a big, delicious supper prepared for the kids and me in the evening."

Some of the table manners need practice to learn. The first time I was invited to dinner, the hostess jokingly asked, "Are you hiding something in your left hand?" I didn't know that wrists always remain on the table!

During the course of the meal, I noticed the people near me were making greater use of their knives than just cutting meat. While I was trying to pick up stubborn peas which were escaping my fork, the people near me used knives to assist them. Then, too, I was to learn that all fruits are cut—including ORANGES, apples, peaches, pears. Everything. The art to this is never to allow your fingers to touch the fruit. I'm afraid my rating on social poise was not too high at that meal, but because my hosts were so friendly, I had fun. Whenever I see a European cutting a hamburger or a piece of layer cake, I can't help chuckling.

New Spring Classes

(from Page 29)

department has offered previously and also in response to the need for knowing how to make electrical measurements.

In Engineering Administration, Problems in Operations Research, has been brought up to date to meet particular needs of engineers and scientists engaged in administration. The course will offer illustrations of the application of operations research by study of case histories: examples of the formulation and preliminary order-of-magnitude case; and examples of broader scope. Another new course, Techniques of Operations Research, is designed to give students actual practice in the applications of research to specific problems. The course will include theory and application of techniques used in operations research, including order-of-magnitude estimation, probability and mathematical statistics, symbolic logic, inequality-constrained stationary-value problems, dynamics of populations, Monte Carlo simulation, strategic gaming, and error and sensitivity analysis.

In the Department of Journalism, Advanced Reporting: Specialized Press. This course has been revised for those students who want to know about the specialized press and includes instruction and practice in coverage and writing of news and features for the business, scientific, and technical press and other specialized media. The journalism major has been changed in an effort to permit students to acquire a greater concentration of study in some one field other than journalism and as part of this new program a Seminar open only to journalism majors in the last semester of their senior year has been established. During this semester students will do research in areas relating journalism to their secondary fields of study. This course will give students practice in research.

In the Department of Psychology, Comparative Psychology is offered for the first time entirely as a lecture course. It will deal with animal psychology and cover psychological processes in animal organisms, evolution of behavior, and the place of animal experimentation and research in psychology.

In Sociology, Juvenile Delinquency is a new arrangement with more emphasis on the causes and treatment of juvenile delinquency in addition to the attention always given to the causes and treatment of adult crime. Students will examine the factors producing delinquency, juvenile detention, the juvenile court, training schools, and treatment of offenders.

In the Department of Speech, a new course at the graduate level is Hearing Rehabilitation. The course will include theory and practice in three aspects of hearing rehabilitation: speech reading, auditory training, and speech conservation.

The President Retires

(from inside front cover)

accepted numerous Government contracts for the University, which involved research grants and the teaching of courses especially for certain Government groups. Currently, major master's programs for the Air Force in management and for the Navy in comptrollership are in effect. The University enrolls one of the largest groups of students sent to any college under the Navy Holloway plan providing a maximum of five semesters of college work for officers who are not graduates of the Academy, do not hold degrees, and who are eligible for this program. Large research projects have included a World War II weapons project which involved development of the famed Bazooka, a 10-year program in Navy Logistics, and the Army Human Resources Research project, which is among the 78 Government research contracts and grants now held by the University.

Special honors—Department of the Army's Award for Exceptional Civilian Service for "exceptionally meritorious and distinguished service" as Deputy Director and Acting Director of Research and Development, War Department General Staff. Cosmopolitan Club award for community service in 1946, after he had made a survey of wartime hospital needs of the Nation's Capital which resulted in Government grants to assist in the enlarging of facilities, including construction of The George Washington University Hospital.

Registration

Registration for the 1959 Spring Semester will be held Thursday and Friday, January 29 and 30, from 9 a.m. to 7 p.m. Law School Registration will take place in Stockton Hall, 720 - 20th Street, N. W. Other students will register in Building C, 2029 G Street, N. W. Classes begin February 2.

Students not registered during the preceding semester must submit to the Director of Admissions, Building C, 2029 G Street, N. W., an application for admission or readmission.

DEAN COLCLOUGH

Principal Representative, Department of Defense, U. S. Delegation, United Nations Conference on the Law of the Sea, Geneva, 1958

Member, Atomic Energy Labor-Management Relations panel

Chairman, District of Columbia Delegation, President's Conference on Education Beyond the High School in 1957

Chairman, District of Columbia Juvenile Court Advisory Committee, 1957

Chairman, White House Disarmament Task Force on Navy Inspection, 1955-1958

Vice Admiral, U.S. Navy, (Ret.)

Judge Advocate General of the Navy 1945-1948 with rank of Rear Admiral, U.S. Navy

World War II, Commander, Submarine Division 101; Commander, Submarines, North Pacific Force; Chief of Staff and Aide to the Commander, North Pacific Force; and as Commanding Officer of the Battleship North Carolina.

Admitted, Bar of the District of Columbia

Special honors—Legion of Merit; the Gold Star in lieu of a second Legion of Merit; Army and Navy Commendation ribbons. The government of France conferred upon him the Order of the Legion d'Honneur, rank of Chevalier. Victory Medals (World Wars I and II) American Defense, Atlantic and Pacific Theatres.

FOR UNIVERSITY INFORMATION

University bulletins are distributed through the following officers. For other information, call University Educational Officer Timothy Smith, ST 3-0250, Ext. 439.

DEPARTMENT OF AGRICULTURE

Secretary Benson

Plant and Operations; Mr. John Steninger, Personnel Officer

Agricultural Conservation Program Service; Mr. Joseph Weeks, Personnel Officer

Agricultural Research Service; Mr. James H. Starkey, Personnel Officer

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Focus on Latin America

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